

KHOBIN, V.N.; YAGODKIN, G.I.

Complex method of studying the interaction of powered support spans with the roof of workings. Fiz.-tekh. probl. razrab. pol. iskop. no.5:43-52 '65. (MIRA 19:1)

1. Institut gornogo dela imeni Skochinskogo, Moskva.

KHORIN, Ya. D.

Khorin, Ya. D. -- "Investigation of the Diagram of Phase Equilibrium in a Cobalt--Chromium--Titanium System." Min Higher Education USSR. Moscow Order of Labor Red Banner Inst of Steel imeni I. V. Stalin. Moscow, 1955. (Dissertation for the Degree of Candidate in Technical Sciences).

So.: Knizhnaya Letopis', No. 2, 1956.

KHORIN, Ya.D.

Clamp for measuring electric resistance of short test pieces.
Zav.lab. 22 no.8:1002 Ag '56. (MLRA 9:11)

1. Moskovskiy institut stali imeni I.V. Stalina.
(Electric resistance) (Electric instruments)

Handwritten: Panchenko, Yelena Vasil'yevna; Skakov, Yuriy Aleksandrovich; Popov, Konstantin Viktorovich; Krimer, Boris Isaakovich; Arsent'yev, Petr Pavlovich; Khorin, Yakov Davidovich; Livshits, B.G., doktor tekhn.nauk, prof., red.; Gordon, L.M., red.izdatel'stva; Karasev, A.I., tekhn.red.

[Metallographic laboratory] Laboratoriia metallografii. Pod red. B.G.Livshitsa. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1957. 695 p. (MIRA 10:12)
(Metallography)

AUTHORS: Kripyakevich, P. I., Khorin, Ya. D. SOV/163-58-1-36/53

TITLE: The Crystal Structure of the Ternary Compound in the System Titanium-Chromium-Cobalt (Kristallicheskaya struktura troynogo soyedineniya v sisteme titan-khrom-kobal't)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, Nr 1, pp 198-200 (USSR)

ABSTRACT: In the system Ti-Cr-Co the triple bond $TiCr_2Co_4$ is formed. The radiographic investigations of $TiCr_2Co_4$ showed that this compound has cubic lattices. It is assumed that this compound is a structure of the α phase or α -Mn type. The structures of the three phases were compared to one another and it was found that the intensity of the lines in the radiograms of this compound agree. The compound $TiCr_2Co_4$ is very similar to the compound $Mo_5Cr_6Fe_{18}$ (χ -phase) as regards its structure. The interatomic distances in the structure of $TiCr_2Co_4$ were given in table 2; these distances of the structure as well as of the structure of the α -Mn ($\alpha = 8,89$ k) are very probable.

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The Crystal Structure of the Ternary Compound in the System Titanium-
Chromium-Cobalt

SOV/163-58-1-36/53

The coordination numbers of the compounds $TiCo_2$ and $TiCr_2Co_4$
are 16, 15 and 14.
There are 2 tables and 6 references, 2 of which are Soviet.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute) L'vovskiy
gosudarstvennyy universitet (Lvov State University)

SUBMITTED: October 1, 1957

Card 2/2

AUTHORS: Livshits, B. G. , Khorin, Ya. D. 76-3-3-26/47

TITLE: Investigations of the Diagram of the Phase Equilibrium in the System Co-Cr-Ti (Issledovaniye diagrammy fazovogo ravnovesiya sistemy Co-Cr-Ti)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 3, pp. 685-693 (USSR)

ABSTRACT: In this work the diagram for the phase equilibrium in the system Co-Cr-Ti with a chromium content of up to 55 % and a titanium content of up to 45 % was investigated. The alloys were produced of purest electrolytically produced chromium, pulverulent titanium and cobalt in a crucible tungsten furnace of the type TBB-2 in a vacuum and argon atmosphere. In the phase-equilibrium diagram of the system Co-Cr the boundary between the solid solution of chromium in cobalt and the σ -phase were determined. It is only in the alloys with 36 - 37 % that a smaller quantity of the σ -phase occurs. The experiments showed that the σ -phase in the system Co-Cr directly forms from the liquid melt. The phase-equilibrium diagram of the system Co-CoTi was also

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Investigations of the Diagram of the Phase Equilibrium in the System Co-Cr-Ti 78-3-3-26/47

constructed. The microstructure and X-ray analyses showed that the Co-Ti alloys with a Ti-content of up to 7 - 8 % consist of the ϵ -phase. (Solid solution of titanium in hexagonal cobalt). The X-ray investigations with 28.30 % and 32 % titanium showed that the compound Co_2Ti possesses an hexagonal modification. The phase-equilibrium diagram of the system Cr-Ti is characterized by its solid solution of titanium in chromium and the compound Cr_2Ti . By isothermal sections at 750, 900 and 1050 °C the authors constructed the boundary of the phase regions in the ternary diagrams of the phase equilibrium of the system Co-Cr-Ti with a chromium content of up to 55 % and a titanium content of up to 45 %. In the investigated parts of the phase equilibrium diagram of the system Co-Cr-Ti the following phases occur:

- 1) The phase of the solid solution of chromium and titanium in cobalt.
- 2) The σ -phase with a maximum quantity of titanium (10-15%). on addition of titanium no marked modification of the hardness of this phase occurs.
- 3) The phase of the compound $(\text{Co}, \text{Cr})_2\text{Ti}$
- 4) The phase of the compound CoTi . This phase dissolves in itself 1,5 - 2 % chromium.

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Investigations of the Diagram of the Phase Equilibrium in the System Co-Cr-Ti 78-3 3-26/47

5) The chemical compound with approximately the following composition: $\text{Co}_2\text{Cr}_2\text{Ti}$. There are 5 figures, 2 tables, and 9 references, 2 of which are Soviet.

ASSOCIATION: Moskovskiy institut stali im. I. V. Stalina
(Moscow Institut for Steel imeni I. V. Stalin)

SUBMITTED: June 25, 1957

Card 3/3

KHORIN, Ya.D.

Standard requirement of high-manganese steel G13L. Standartizatsiya 25 no.10:17-19 0 '61. (MIRA 14:9)
(Manganese steel—Standards)

KHORIN, Ya.D.

Quality of milling balls. Standartizatsiia 26 no.7:30-31 J1
'62. (MIRA 15:7)
(Milling machinery—Standards)

GUZOVSKAYA, M.A., inzh.; KHORIN, Ya.D., kand.tekhn.nauk

Wear-resistance of high-manganese steel castings. Metalloved. i
term.obr.met. no.4:20-22 Ap '62. (MIRA 15:4)

1. Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i
mashinostroyeniya.
(Steel castings--Testing) (Manganese steel--Metallography)

NESVIZHSKIY, O.A., kand.tekhn.nauk; KHORIN, Ya.D.

Selection of material for lining plates of ball mills. Gor. zhur.
no.8:62-67 Ag '63. (MIRA 16:9)

1. Gosudarstvennyy vsesoyuznyy nauchno-issledovatel'skiy institut
tsementnoy promyshlennosti, Moskva (for Nesvizhskiy). 2. Tsentral'-
nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya,
Moskva (for Khorin).

(Milling machinery)

NSEV ZHESKIY, O.A., kand. tekhn. nauk; KHORIN, Ye.P., kand. tekhn. nauk

Extending the life of lining armor plates of ball mills. Simol.
i dor. mash. 9 no. 7:29-33 J1 '64. (MIRA 18:3)

L 52591-65

EWI(m)/EWA(d)/EWP(t)/EWP(z)/EWP(b) MJW/JD

ACCESSION NR: AP5015751

UR/0028/64/000/012/0040/0040

AUTHOR: Khorin, Ya. D. (Candidate of technical sciences)

TITLE: Grinding balls

SOURCE: Standartizatsiya, no. 12, 1964, 40

TOPIC TAGS: industrial management

Abstract: As of 1 January 1965 the use of steel grinding balls of specification GOST 7524-64 became compulsory for all branches of industry. The new ball is distinguished by high wear-resistance. In tests made at the Central Scientific-Research Institute of Technology and Machine-Building in connection with establishing a standard, it was shown that temper hardening at 200°C (for balls up to 60 mm diameter in the case of Steel No. 6, and up to 125 mm in the case of Steel No. M76) guarantees surface hardness of not less than HB 500 and center hardness not less than HB 300; these hardnesses were obtained directly in the ball-rolling mill of the "Azovstal" steel plant. In view of metallurgical variation, the standard hardnesses

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ACCESSION NR: AP5015751

of GOST 7527-64 are set at (not less than) HB 400 for 15-18 mm balls, HB 350 for 90-110 mm balls, and HB 300 for 125-mm balls; no brands of steel are prohibited, but a lower limit on carbon content is set at 0.35% for balls up to 50 mm, and 0.6% for balls 60 mm and greater in diameter. The increased wear-resistance of the new standard is expected to save 90,000 tons of metal annually, and improve the efficiency of cement plants, beneficiation mills, and other users.

There are more than 50 Soviet plants engaged in producing grinding balls, most of which are using obsolete equipment. The author notes that the cost of producing a ton of balls at poorly equipped plants is 28-30 rubles, as against 7 rubles 30 copecks at the "Azovstal'" plant, and suggests the industry should be concentrated at 8-10 plants equipped with up-to-date ball-rolling mills.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: IE

NO REF SOV: 000

OTHER: 000

JPRS

Card 2/2

KHCRIN, Ya.D., kand. tekhn. nauk

Raise the quality of steel balls for mills. Gor. zhur. no.5 44-45
My '65. (MIRA 18:5)

1. TSentral'nyy nauchno-issledovatel'skiy institut tekhnologii i
mashinostroyeniya, Moskva.

KHORIN, Ya.O., kand.tekhn.nauk

Selection of steel and the heat treatment of grinding balls.
Stal' 25 no.5:455-457. My '65. (MIRA 18:6)

IMCHENKO, I. A.

"Water-Constituent of Wheat and Barley in the Central Ural Area." Thesis for degree of Cand. Biological Sci. Sub 22 Mar 49, Inst of Plant Physiology imeni K. A. Timiryazev, Acad Sci USSR

Summary 82, 18 Dec 52, Dissertations Presented For Degrees in Science and engineering in Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949.

Country : USSR
CATEGORY :

M-4

ABST. JOUR. : RZhbiol., No. 19, 1959, No. 86982

AUTHOR : Khorinko, E. A.

INST. : Molotovsk Agricultural Institute

TITLE : The Causes of Winter Wheat Killing in the Molotovskaya Oblast

ORIG. PUB. : Tr. Molotovsk. s.-kh. in-t, 1957, 15, 47-66

ABSTRACT : Under the conditions of Molotovskaya Oblast the yields of winter wheat are almost equal to those of spring wheat, but in certain years the stands of the former are ruined or the wheat is destroyed entirely. The main killing cause is decay under long lasting a heavy snow cover. Plants weakened by long wintering -- for 150-176 days -- are readily attacked in the spring by snowy mildew, sclerotium. Overwintering is adversely affected if the plants sustain frost damage during hard freeze in autumn. In addition to killing by decay there are noted instances of destruction as a result of frost damage on elevated areas and also by heaving and drying out in early spring, or spring freeze damage. The lower the farm technology

CARD: 1/2

1. KHORISHCHENKO, F.
2. USSR (600)
4. Coal-Mining Machinery
7. How I increased the productivity of the excavator. Mast. ucl. 1, no. 8, 1952.
9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

DISUROV, V.R.; KOSHEV, M.N.; GOMIALAT, V.E.; MELATINA, N.A.; KHORISHKO, S.T.

Determining the oil recovery factor from fluid and geological data.
Nauch.-tekhn. sbor. po dob. nefti no.22:83-83 '64.

(MIRA 17 9)

1. Vsesoyuznyy neftegazovyy nauchno-issledovatel'skiy institut.

KHORIISHKO, S.T.; BEEYEV, V.A.

Current state of the study and determination of the position of
the water-oil contact in oil pools. Nauch. tekhn. sbor. po dob. nefti
no.27:3-13 '65. (MIRA 18:9)

1. Vsesoyuznyy neftegazovyy nauchno-issledovatel'skiy institut.

MELIK-PASHAYEV, V.S.; KOCHETOV, M.N.; LISUNOV, V.R.; GOMZIKOV, V.K.;
MOLOTOVA, N.A.; KHORISHKO, S.T.; SHEPSTNYAKOVA, L.G.

Oil yield of pools developed for a long period of time on the
basis of geological field data. Trudy VNI no.43:3-106 '65.
(MIRA 18:6)

KHORISIAN, Zh.

A great success of our machine construction. Tekh.delo
no.433:2 7 J1 '62.

KHORISIAN, Zh.

An exhibition of technical progress held in Plovdiv. Tekh delo
no.438:2 11 Ag '62.

KHORISIAN, Zh.

The 2000-ton hydraulic press. Mashinostroene 11 no.7/8:32 J1-Ag '62.

KHORITONOVA, K.K., kand.med.nauk (Novosibirsk)

Prevention of traumatic abscesses of the brain under experimental conditions. Vop.neirokhir. 25 no.2:24-28 Mr-Apr '61. (MIRA 14:6)

1. Novosibirskiy institut travmatologii i irotopedii.
(BRAIN--ABSCESS)

Khorkhin, S.N.

USSR / Farm Animals. Hogs

U-6

Abs Jour : Ref Zhur - Biologiya, No 16, 1957, 72085

Author : Khorkhin, S.N.

Title : The Study of the Physiological Role of Cobalt in the Pig Organism and Its Effect on Productivity.

Orig Pub : Izv. Otd. Estestv. Nauk AN TadzhSSR, 1956, No 16, 99-109.

Abstract : Piglets on a meat feed received from 3 months age on an addition of 0.2 mg/kg of live weight of cobalt chloride. In this group, the daily increase in weight in 150 days was 555.3 g per day and the control group (without cobalt) 435.3 g. The difference in favor of the test group was 10% in slaughter weight; the quantity of meat weight in the carcass 13%, lard 29%. In the test group, the digestibility was higher: protein by 12%, fat 6.6%, cellulose 8%, nitrogen utilization 13.8%. "Excreted" oxygen in the urine of test animals was 12.7 mg; in the controls 14.8 mg. The Ca utilization from the ration in the test animals was more than 11%. A positive effect on the vitamin B₁₂ content was shown in the liver, in the muscles and on the Hb and red blood cells.

Card : 1/1

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TYURIN, A.R., polkovnik; KHORKHORDIN, G.I., podpolkovnik

In any situation they provide reliable communication. Vest.
protivovozd. obor. no.11:55-58 N '61. (MIRA 16:10)

(Radio, Military)

KHORKHORIN, S.; SOLDATOV, V.

Automatic protection of boilers. Pozh.delo 10 no.1:6-7 Ja '64.
(MIRA 17:2)

81. Effect of Salting-Out Agents on Solvent Extraction of Uranyl Nitrate Investigated

"The Effect of Some Salting-Out Agents on the Distribution of Uranyl Nitrate Between Aqueous Solutions and Solvents Used for Its Extraction," by S. M. Karpacheva, L. P. Khorkhorina, and G. D. Agashkina, Zhurnal Neorganicheskoy Khimii, Vol 2, No 4, Apr 57, pp 961-969

The equilibrium distribution of uranyl nitrate between solvents (diethyl ether, dibutyl ether, and n-butyl acetate) and aqueous solutions containing different salting-out agents or free of such agents was studied. Distribution curves were determined and data obtained concerning the specific weights of the aqueous and nonaqueous solutions involved. Comparison of data on the distribution of uranyl nitrate extracted from solutions containing different salting-out agents made it possible to evaluate quantitatively the effectiveness on the latter.

The following concepts have been introduced:

B_s = salting-out equivalent (i. e., the quantity of salt which in its salting-out action is equivalent to one mol of uranyl nitrate in an aqueous solution in a state of equilibrium).

B_d = an equivalent (expressed in a quantity of salt) which corresponds to a definite coefficient of distribution with reference to solutions which have different salt compositions, as distinguished from B_s , which corresponds to a definite quantity of uranium extracted. $B_d(u)$

AUTHOR

KARPACHEVA, S.M., KHORKHORINA, L.P.,
MEDVEDEV, S.F.

89-6-11/24

TITLE

New constructions of Extraction Columns with Nozzles.
(Novyye konstruktzii forsunochnykh ekstraktsionnykh kolon.--
Russian.)

PERIODICAL

Atomnaya Energiya 1957, II/6, 558-561.

ABSTRACT

Two new constructions are described:

- 1) A multi-step extraction column with one nozzle per each element operates as follows: The feeding of the output solution is carried out over the single elements which are connected in series. The nozzles in each element through which the extractor is fed into the element are fed by a common storage container.

The elements can be made of glass or metal. They have a ϕ 23 mm, a total height of 200 mm, and a working height of 150 mm.

The elements described operate particularly well if solvents of low viscosity and small surface can be used.

- 2) The second extraction column is built in such a manner that each element is fitted with 2 (or also 4) nozzles.

CARD 1/2

KHORKHOKINA, L.P.

Distr: 4E43

Data on the extraction properties of tributyl phosphates (TBP). S. M. Karpacheva, L. P. Khorkhokina, and A. M. Rozen. *Zhur. Vses. Khim.* 2, 1341-7 (1957).—The distribution of uranyl nitrate ($\sim 2-300$ g./l. in the aq. phase) was measured for extrn. with H_2O or the hydrocarbon fraction boiling at $170-270^\circ$ contg. 10-100% TBP. The capacity of the solvent with respect to $\text{UO}_2(\text{NO}_3)_2$, calcd. on the basis of pure TBP was ~ 400 g./l. or ~ 1.7 moles/l. (U:TBP = 2:1:1). The distribution of HNO_3 was measured for solvents contg. 20, 40, and 100% TBP. The capacity of the solvent at high concns. of acid is greater than that which corresponds to the formation of the single solvate and approaches approx. 1.2 moles HNO_3 per mole of TBP. The distribution of $\text{UO}_2(\text{NO}_3)_2$ and HNO_3 was measured for their simultaneous presence and for concns. of 20 and 30% TBP and for solns. which are up to 2N with respect to HNO_3 . In the presence of HNO_3 the capacity of the solvent with respect to $\text{UO}_2(\text{NO}_3)_2$ almost approaches the value that corresponds to the formation of the disolvate.

J. Rovtar Leach

ROZHN, A.M.; KHORKHORINA, L.P.
ROZHN, A.M.; KHORKHORINA, L.P.

Thermodynamics of the extraction by tributylphosphate. Zhur. neorg.
khim. 2 no.8:1956-1969 Ag '57. (MIRA 11:3)
(Butyl phosphate) (Uranyl nitrate) (Nitric acid)

ROZEN, A.; KHORKHORINA, I.
ROZEN, A.; KHORKHORINA, I.

Letter to the editor. Zhur. neorg. khim. 3 no.2:549 P '58.
(Extraction (Chemistry)) (MIRA 11:4)

S/186/62/004/005/006/009
E075/E135

AUTHORS: Rozen, A.M., Khorkhorina, L.P., Karpacheva, S.M., and Agashkina, G.D.

TITLE: Influence of temperature on extraction with tributylphosphate

PERIODICAL: Radiokhimiya, v.4, no.5, 1962, 591-600

TEXT: The authors investigated the effect of temperature on the simultaneous distribution of uranyl nitrate and nitric acid between tributylphosphate (TBP) and the equilibrium aqueous phase for acidities up to 8.0 M and the concentration of uranyl nitrate from 0 to 1.0 M. The distribution was studied at 20, 40 and 70 °C. The extractant (TBP) was dissolved in saturated hydrocarbons and shaken with an equal volume of the aqueous solution. The distribution coefficient increases and passes through a maximum with the increasing concentration of HNO₃ (up to 3-4 N) and decreases at higher acidities. The distribution coefficient of uranyl nitrate is lowered by the increase of temperature from 20 to 70 °C but this increase has no effect on the distribution of HNO₃. The distribution of HNO₃ increases, however, with the increase of

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Influence of temperature on ...

S/186/62/004/005/006/009
E075/E135

temperature from 20 to 70 °C in the presence of U. This is due to the decreasing distribution coefficient of uranyl nitrate, which increases the concentration of free TBP. The increasing concentration of uranyl nitrate in the organic phase causes a decrease in its content of HNO₃. An increase in the concentration of U in the equilibrium aqueous solution causes initially a sharp fall in the concentration of HNO₃ in the organic phase and, beginning with the U concentration of 100 g/litre, the concentration of HNO₃ remains almost constant. The apparent distribution constants were determined using the formula:

$$\tilde{K}_U = \frac{y_U}{T_{sv}^2 x_U (2x_U + x_H)^2} \quad (1)$$

where: y_U - concentration of U in organic phase; x_U - concentration of U in aqueous phase; x_H - concentration of HNO₃ in aqueous phase; T_{sv} - concentration of free TBP in organic phase.

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The constants for the aqueous solutions possessing different acidities are practically identical. At 20 °C the following approximate relation holds:

$$\tilde{K} \approx 70\gamma_+^3$$

where γ_+ - activity coefficient of $UO_2(NO_3)_2$ in aqueous phase.

The constants decrease with the increasing temperature. The heat of extraction is approximately 4660 cal/mole at a constant effective concentration of HNO₃ in aqueous phase $x_{ef} = 0.2$ M and 3400 cal/mole for $x_{ef} = 1.2$ M.

There are 13 figures and 2 tables.

SUBMITTED: October 19, 1961

Card 3/3

ROZEN, A.M.; KHORKHORINA, L.P.; YURKIN, V.G.; NOVIKOVA, N.M.

Interaction of tributyl phosphate and tributyl phosphate
solvate with diluents. Dokl. AN SSSR 153 no.6:1387-1390
D '63. (MIRA 17:1)

1. Predstavleno akademikom A.N. Frumkinym.

KHORKHOT, A., kand. tekhn. nauk

Planning the layout and technical equipment of urban industrial districts. Prom. stroi. 1 inzh. soor. 5 no.3:4-2 My-Je '63.

(MIRA 16:7)

(City planning)

LUK'YANOV, V.I.; MYSLIN, V.A.; SHMEYEROV, A.I.; KHORKHOT, A.Ya.;
 YELENSKIY, M.S.; MEL'NIKOVA, O.M.; PLESHKOV, L.Ye.; ORLOV, V.V.;
 ZLATOLINSKIY, V.N.; VISHNEVSKIY, F.L.; LAPSHENKOV, P.G.; MAKHOV,
 M.S.; RUKAVISHNIKOV, I.D.; LYTIN, K.F.; KOZHEVNIKOV, O.A.;
 ZORKIN, G.M.; NORMAN, B.B.; TUMANOV, N.S.; SEREBRYANIKOV, S.M.;
 VOLKOV, N.G.; NOVIKOV, P.G.; FRIDBERG, G.V., inzh., red.izd-va;
 GELINSON, P.G., tekhn.red.

[Designing chief plans for industrial plants; principal methods]
 Proektirovanie general'nykh planov promyshlennykh predpriyatii;
 osnovnye polozhenia. Moskva, Gos.izd-vo lit-ry po stroit.,
 arkh. i stroit.materialam, 1960. 103 p.

(MIRA 13:6)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut grado-
 stroitel'stva i rayonnoy planirovki. 2. Nauchno-issledovatel'skiy
 institut gradostroitel'stva Akademii stroitel'stva i arkhitektury
 USSR (for Khorkhot, Yelenskiy, Mel'nikova). 3. Gosudarstvennyy in-
 stitut proyektirovaniya metallurgicheskikh zavodov (Gipromet) (for
 Pleshkov).

(Continued on next card)

KHORKHOT, A.Ya., kand.tekhn.nauk

Modern trends in designing industrial plants and buildings. Prom.
stroi. i inzh. soor. 1 no.1:1-2 0 '59. (MIRA 13:12)
(Factories—Design and construction)

LUK'YANOV, V.I.; KHORKHOT, A.Ya.; ZORKIN, G.N.; NORMANN, B.B.; PLESHKOV, L.Ye.; LYTKIN, K.F.; KOZHEVNIKOV, O.A.; TEMCHIN, N.A.; ORLOV, V.V.; ZLATOLINSKIY, V.N.; MAKHOV, M.S.; RUKAVISHNIKOV, I.D.; SHITOVA, L.N., red.izd-va; OSEENKO, L.M., tekhn.red.

[Instructions for drafting general plans of industrial enterprises] Ukazaniia po proektirovaniu general'nykh planov promyshlennykh predpriatii. Odobreny Gosudarstvennym komitetom Soveta Ministrov SSSR po delam stroitel'stva 15 noiabria 1960 g. Moskva, Gos.izd-vo lit-ry po stroit., arkhitekt. i stroit.materialam, 1961. 131 p. (MIRA 15:2)

1. Akademiya stroitel'stva i arkhitektury SSSR, Institut gradostroitel'stva i rayonnoy planirovki. 2. Akademiya stroitel'stva i arkhitektury SSSR, Nauchno-issledovatel'skiy institut gradostroitel'stva i rayonnoy planirovki (for Luk'yanov). 3. Akademiya stroitel'stva i arkhitektury USSR, Nauchno-issledovatel'skiy institut gradostroitel'stva (for Khorkhot). 4. Giproaviaprom (for Zorkin, Normann). 5. Gosudarstvennyy soyuznyy institut po proektirovaniyu metallurgicheskikh zavodov (for Pleshkov). 6. Gosudarstvennyy institut po proektirovaniyu zavodov tyazhelogo mashinostroyeniya (for Lytkin, Kozhevnikov). 7. Gosudarstvennyy projektnyy institut No.1 (for Temchin). 8. Gosudarstvennyy projektnyy institut stroitel'noy promyshlennosti (for Orlov, Zlatolinskiy). 9. Gosudarstvennyy projektnyy institut po promyshlennomu transportu (for Makhov, Rukavishnikov).

(Industrial plants---Design and construction)

ADRIANOV, P.K.; ANDRIANOV, S.M.; BNEZIKOV, B.S.; GOLOVEO, V.G. [Golovko, V.H.]; DOBROVOL'SKIY, A.V. [Doborovol's'kyi, A.V.]; DOVGAL', M.F. [Dovhal', M.F.]; YELIZAROV, V.D. [Ielizarov, V.D.]; ZHIZDRINSKIY, V.M. [Zhyzdryns'kyi, V.M.]; ZVENIGORODSKIY, O.M. [Zvenigorods'kyi, O.M.]; ZAYCHENKO, R.M. [Zaichenko, R.M.]; IVANENKO, Ye.I. [Ivanenko, I.I.]; KOMAR, A.M.; KOS'YANOV, O.M.; KAZAKOV, O.I.; KOSENKO, S.K.; KLIMENKO, T.A.; KIR'YAKOV, O.P.; KALISHUK, O.L.; LELICHENKO, M.T.; LEBEDICH, M.V.; MIKHAYLOV, V.O. [Mykhailov, V.O.]; MOROZ, I.I.; MOSHCHIL', V.Yu. [Moshchil', V.IU.]; NEPOROZHNIY, P.S. [Neporozhni, P.S.]; NEZDATNIY, S.M. [Nezdatnyi, S.M.]; NOVIKOV, V.I.; POLEVOY, S.K. [Polevoi, S.K.]; PEREKHREST, M.S.; PUZIK, O.Ye. [Puzik, O.E.]; RADIN, K.S.; SLIVINSKIY, O.I. [Slivins'kyi, O.I.]; STANISLAVSKIY, A.I. [Stanislavs'kyi, A.I.]; USPENSKIY, V.P. [Uspens'kyi, V.P.]; KHORKHOT, O.Ya.; KHILYUK, F.P.; TSAPENKO, M.P.; SHVETS, V.I.; MAL'CHEVSKIY, V. [Mal'chevs'kyi, V.], red.; ZELENKOVA, Ye. [Zelenkova, E.], tekhn.red.

[The Ukraine builds] Ukraina buduie. Kyiv, Derzh.vyd-vo lit-ry z budivnytstva i arkhitekt., 1957. 221 p. (MIRA 11:5)
(Ukraine--Construction industry)

S/079/61/031/009/001/012
D215/D306

AUTHORS: Petrov, K.A., Nifant'yev, E.Ye., and Khorkhoyanu, L.V.

TITLE: Peresterification of esters of dialkyl-phosphinious acids with glycerine derivatives

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 9, 1961,
2889 - 2894

TEXT: In the present work the authors studied peresterification of dialkyl- and diarylphosphinious acids with glycerine derivatives containing one free hydroxyl group for use in insect repellent compounds. The reaction of 1,2-diphenylideneglycerine with 1,2-isopropylideneglycerine was studied. The compounds were found to react readily with simpler esters, methylethyl-, dipropyl- and diphenylphosphinious acid. Glycerine derivatives with free secondary hydroxyls such as 1,3-benzylideneglycerine reacted less readily, but still gave good yields of the corresponding phosphinites. The phosphinites of the glycerine series provide novel compounds which

Card 1/6

Peresterification of esters ...

S/079/61/031/009/001/012
D215/D306

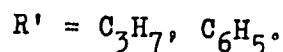
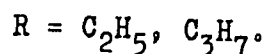
are either liquids or crystalline solids having unpleasant odours. They oxidize easily in air but remain stable in an inert gas atmosphere; their chemical properties are similar to those of simpler dialkyl- and diarylphosphinous acids and in oxidizing medium and in the presence of sulphur convert to the corresponding phosphonates and thiophosphonates. The synthesized phosphinites react according to Arbuzov's reaction forming phosphine oxides and corresponding halogen derivatives. The peresterification and alkylation of phosphinites may be used in preparing some halogen derivatives from polyatomic alcohols if the former are difficult to produce. In the present work the authors also investigated this reaction in order to produce more complex halogen derivatives of the polyatomic alcohols. The propyl dipropylphosphinite and ethyl diphenylphosphinite necessary for this reaction were prepared by reacting Menshutkin acid chlorides with organomagnesium compounds at -70°C



Card 2/6

Peresterification of esters ...

S/079/61/031/009/001/012
D215/D306



(1)

The first of the esters obtained has been unknown so far, and the second used to be prepared by more complex methods. The peresterification reaction was conducted by heating equimolecular quantities of the phosphinite and the glycerine derivative in a dry nitrogen stream with a small piece of sodium, distilling the required quantity of alcohol and finally vacuum distilling the residue. Time, temperature, yields and constants of the compounds obtained are given in tabulated form. In further experiments the propyl ester of dipropylphosphinous acid was oxidized with nitrogen oxides at $-100^{\circ}C$ until a permanent green coloration was obtained. Vacuum distillation of the solution yielded the propyl ester of dipropylphosphinic acid with high purity; b.pt. $103-104^{\circ}C/1$ mm Hg, $n_D^{20} - 1.4418$, $d_4^{20} - 0.9543$, and having an empirical formula

Card 3/6

Peresterification of esters ...

S/079/61/031/009/001/012
D215/D306

$C_9H_{21}O_2P$. The ester is colorless, odorless, insoluble in water, and soluble in ether, benzene, carbon tetrachloride and petroleum ether. Similarly oxidations of 1,2-isopropylidene glycerine ester and the 1,3-benzylideneglycerine ester of dipropylphosphinous acid were carried out to yield respectively esters of dipropylphosphinic acid, $C_{12}H_{25}O_4P$, b.pt. 143-144°/0.2 mm,

n_D^{20} - 1.4530, d_4^{20} - 1.0376 and $C_{16}H_{21}O_4P$ b.pt. 117-118°/10⁻⁴ mm

n_D^{20} - 1.5190. Both esters are insoluble in water and petroleum ether and soluble in alcohol, acetone, benzene, chloroform and carbon tetrachloride. Addition of sulphur to both propyl- and 1,2-isopropylideneglycerine esters of dipropylphosphinous acid was conducted by heating the esters with thoroughly dry sulphur at 140-142°C (exothermic reaction). The corresponding sulphur derivatives have b.pts. 81-82°C/0.5 mm and 141-140°C/1 mm respectively, unpleasant odors, and are both insoluble in water and soluble in

Card 4/6

Peresterification of esters ...

S/079/61/031/009/001/012
D215/D306

common organic solvents. Propyl-, 1,2-isopropylideneglycerine- and the 1,3-benzylideneglycerine esters of dipropylphosphinous acid undergo the Arbuzov rearrangement with methyl iodide to yield respectively dipropylmethylphosphine oxide, b.pt. 91-93°C/1 mm, m.pt. 39-39.5°C, the above oxide and 2,2-dimethyl-4-iodomethyldioxolen-1,3. b.pt. 81-83°C/9 mm. n_D^{20} - 1.5038, and the oxide as before and

2-phenyl-5-iodo-dioxan b.pt. 117-120°C/9 mm, n_D^{20} - 1.4983. The preparation of propyl ester of dipropylphosphinous acid and the ethyl ester of diphenylphosphinous acid was carried out by reacting the corresponding alkyl (propyl or ethyl) dichlorophosphite, pyridine, alcohol and propyl- or phenylmagnesium bromide respectively in ether at -65°C. Distillation of the reaction mixture yields in the first case the propyl ester of dipropylphosphinous acid b.pt. 70-71°C/7 mm, n_C^{20} - 1.4430, d_4^{20} - 0.8473 MR_{found} 54.64; $MR_{calculated}$ 54.94, which is a mobile liquid with unpleasant smell which igni-

Card 5/6

Peresterification of esters ...

S/079/61/031/009/001/012
D215/D306

tes in air and which is insoluble in water but soluble in common organic solvents; in the second case the ethyl ester of diphenylphosphinous acid b.pt. 127-128°C/1 mm, n_D^{20} - 1.5910. There are 1 table and 8 references: 4 Soviet-bloc and 4 non-Soviet-bloc. The references to the English-language publications read as follows: U.S. Patent 2,588,407; E. Baer, H.L. Fischer, J. Am. Chem. Soc. 70, 609, 1948; C.N. Smith, D. Burnett, J. Econ. Entomol. 42, 434, 1949; T.H. Bevan, T. Malkin, D.B. Smith, J. Chem. Soc. 1955, 1383.

SUBMITTED: September 5, 1960

Card 6/6

PETROV, K.A.; NIFANT'YEV, E.Ye.; KHORKHOYANU, L.V.; TRUSHKOV, A.I.

Reesterification of esters of dialkyl- and diarylphosphinic acids.
Zhur.ob.khim. 31 no.9:3085-3090 S '61. (MIRA 14:9)
(Phosphinic acid) (Esterification)

15 8150

11.9700

11.2230

133382

S/190/62/004/002/013/021

B110/B101

AUTHORS: Petrov, K. A., Nifant'ev, E. Ye., Khorkhoyanu, L. V.,
Merkulova, M. I., Voblikov, V. F.

TITLE: Phosphorus-containing polymers. III. Application of the
Arbuzov reaction for polymerizing ethylene alkyl phosphites

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 2, 1962, 246-249

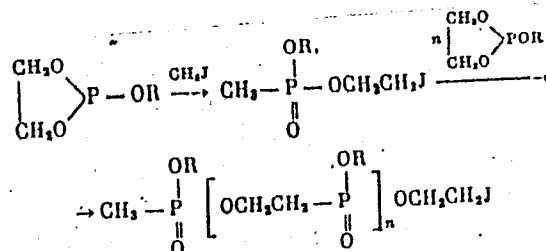
TEXT: The method by A. Ye. Arbuzov et al. (Izv. AN SSSR, Otd. khim. n., 1950, 357) can be used for producing polyphosphonates from cyclic phosphinites. In the present study, polyphosphonates were similarly synthesized on the basis of ethylene alkyl phosphites (I). Alcohol was added dropwise to 126.5 g of ethylene chlorophosphite, 300 ml of ether, and 152 g of triethylamine; the mixture was left standing, filtered off, heated for 30 min, and (I) was obtained by double distillation. Cyclic phosphites contain an alkoxy group besides the cyclic ester group. Polyphosphonates are formed under catalytic action of methyl iodide on ethylene alkyl phosphite during 3 hr heating at 130°C in Ar atmosphere: ✓

Card (1/3)

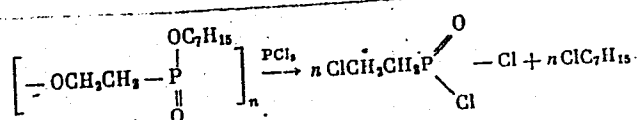
3382

S/190/62/004/002/013/021
B110/B101

Phosphorus-containing polymers...



The structure of polyethylene heptyl phosphite was proven as follows:



The degree of polymerization depends on the CH_3I amount, the reaction time and temperature. Optimum was: (1) small CH_3I amount; (2) ~20 - 30 hr, the reaction time depending on the molecular weight of the monomer,
Card 2/3

S/079/62/032/011/009/012
D204/D307

AUTHORS: Petrov, K.A., Nifant'yev, E.Ye., and Khorkhoyanu, L.V.

TITLE: Phosphorylation of glycerine and its derivatives by
alcoholysis of the amides of dialkylphosphinous acids.
A new method of directed replacement of a hydroxyl by
a cyano group

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 11, 1962,
3720 - 3723

TEXT: Interactions of the diethylamide of dipropylphosphinous
acid (I) with 1,2-iso-propylideneglycerine (II), 1,3-benzylidenegly-
cerine (III) and glycerine were studied, in continuation of earlier
work (ZhOKh, 31, 2889, 1961). I and II, and I and III interacted
readily at 120-125°C to yield respectively the dipropylphosphini-
tes of 1,2-iso-propylideneglycerine and 1,3-benzylideneglycerine
(IV and V), in almost quantitative yields. Glycerine reacted analo-
gously, at 135-140°C, in 60 % yield, to give the corresponding tris-
dipropylphosphinite (VI). $C_3H_7OP(OC_3H_7)_2$ reacted readily with bu-

Card 1/2

S/079/62/032/011/009/012
D204/D307

Phosphorylation of glycerine and ...

tyl thiocyanate, at 0°C, under an inert atmosphere; when the exothermic reaction was over the mixture was heated at 100-110°C for 1 hr., and was then distilled to give BuSP(O)(Pr)₂. Cyanodesoxy-1,2-iso-propylideneglycerine (VII) was prepared from IV and benzyl thiocyanate, in 45 % yield, by an analogous reaction. VII was converted into iso-propylidene-2-desoxytetrose by mixing it into SnCl₂/ether/HCl, stirring for 1 hr. at the b.p. of the ether evaporating the latter off, adding water and neutralizing the mixture and heating for 5 hrs. at 50°C. Iso-propylidene-3,4-desoxy-4-aminoerythrite was obtained by adding VII to ethereal LiAlH₄ evaporating the ether off, adding an equivalent amount of THF and heating for 96 hrs. on a water-bath.

SUBMITTED: December 14, 1961

Card 2/2

PETROV, K.A.; NIFANT'YEV, E.Ye.; KHORKHOYANU, L.V.

Phosphorylation of glycerol and its derivatives by
alcoholysis of dialkyl phosphinic amides. New method
of a directed substitution of a cyano group for hydroxyl.
Zhur.ob.khim. 32 no.11:3720-3723 N '62. (MIRA 15:11)
(Glycerol) ~~Phosphorylation~~ (Phosphorylation)
(Phospinic amide)

B/190/63/005/003/009/024
B101/B186

AUTHORS: Petrov, K. A., Nifant'yev, E. Ye., Khorkhoyanu, L. V.,
Voblikov, V. F.

TITLE: Phosphorylated polysaccharides. II. Phosphorylation of
cellulose by alcoholysis of amides of the acids of three-
valent phosphorus

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 5, no. 3, 1963, 348-352

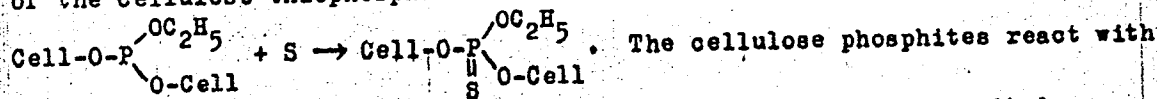
TEXT: In a previous paper (Zh. obshch. khimii, 31, 2377, 1961) the authors
described the reaction: $\text{Cell-OH} + \text{R}_2\text{N} - \text{P} < \rightarrow \text{Cell-O-P} < + \text{R}_2\text{NH}$. In the
present paper a study was made of this new method of phosphorylating
cellulose by alcoholysis of phosphorous acid amides such as diethyl phos-
phorus acid diethylamide, ethylphosphorous acid tetraethylamide and phos-
phorous acid hexaethyltriamide in order to develop fireproof, antiseptic
and insecticidal cellulose. Since the process of esterification of cellu-
lose depends to a great extent on how the sample is prepared the following
cellulose types were subjected to phosphorylation: viscose fiber, washed
with methanol and dried; specially prepared cotton cellulose; cellulose

Card 1/3

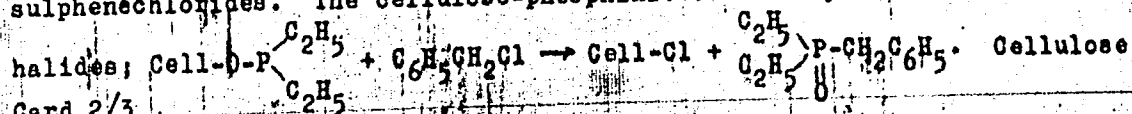
Phosphorylated polysaccharides...

S/190/63/005/003/009/024
B101/B186

reprecipitated from triethylbenzylammonium hydroxide; and pyridine-enclosed cellulose. The degree of phosphorylation increased with increasing temperature (80 - 120°C). Celluloses with a phosphorus content up to 17.4%, $\eta = 300$ were obtained. These optimum values were obtained with pyridine and triamides, insoluble compounds arose containing about 3 - 3.5% nitrogen so that cross linking is assumed. With monoamides, cellulose phosphinites were formed, soluble in methanol. The phosphinites with 5 - 7% P were extinguished again when the flame was removed, the esters with a still higher P content did not burn but only carbonized. The cellulose esters of the trivalent phosphorus acids are highly reactive. With dry oxygen quantitative oxidation to phosphates sets in. Sulfur adds with formation of the cellulose thiophosphates hitherto unknown:



sulphenechlorides. The cellulose-phosphinites are alkylated by alkyl



Card 2/3

Phosphorylated polysaccharides...

S/190/63/005/003/009/024
B101/B186

halides arise which can be used as the initial substances for the synthesis of desoxy-, cyano-, amino-, and other cellulose derivatives. . There are 3 tables.

SUBMITTED: August 8, 1961

Card 3/3

PETROV, K.A.; NIFANT'YEV, E.Ye.; KHORKHOYANU, L.V.; SHCHERBA, I.G.

Phosphites and phosphinites of triols and their derivatives. Zhur.ob.
khim. 34 no.1:70-77 Ja '64. (MIRA 17:3)

PETROV, K.A.; NIFANT'YEV, E.Ye.; KHORKHOYANU, L.V.; GOL'TSOVA R.G.

Phosphorus-containing polymers. Part 8: Synthesis and some
properties of polyarylene phosphites and phosphinites.

Vysokom. soed. 5 no.12:1799-1804 D '63. (MIRA 17:1)

PETROV, K.A.; BAKSOVA, R.A.; REORNOYANU, I. V.; SINGGEYKINA, I. I.; SKUDINA, T.V.

Properties of phosphinic acid anhydrides. Part 1: Monoalkyl(aryl)
phosphonates. Zhur. ob. khim. 35 no.4:723-728 Ap '65.
(MIRA 18:5)

PETROV, K.A.; BAKSOVA, R.A.; KHORKHOYAN, L.V.

Properties of phosphinic acid anhydrides. Part 3: Reactions
of anhydrides of phosphinic acids with olefin oxides. Zhur.
ob. khim. 35 no.4:732-737 Ap '65.

(MIRA 18:5)

L 16000-66 EWP(j)/EWT(m) RM/WW SOURCE CODE: UR/0000/65/000/000/0310/0313

ACC NR: AT6004037

AUTHOR: Petrov, K. A.; Baksova, R. A.; Khorkhoyanu, L. V.; Rebus, I. F.

ORG: None

TITLE: Properties of phosphonic anhydrides. Part 2: Synthesis and properties of ethylenediphosphonic anhydride

SOURCE: AN SSSR. Otdeleniye obshchey i tekhnicheskoy khimii. Problemy organicheskogo sinteza (Problems in organic synthesis). Moscow, Izd-vo Nauka, 1965, 310-313

TOPIC TAGS: organic phosphorus compound, alcohol, phenol

ABSTRACT: The article presents data on the synthesis of ethylenediphosphonic anhydride and on a study of its reaction with monohydric and dihydric alcohols and phenols. The anhydride was obtained in almost quantitative yield in two ways: (1) controlled hydrolysis of ethylenediphosphonyl tetrachloride in chloroform with prolonged heating

$$n\text{Cl}_2(\text{O})\text{PCH}_2\text{CH}_2\text{P}(\text{O})\text{Cl}_2 + 2n\text{H}_2\text{O} \rightarrow n(\text{O}_2\text{PCH}_2\text{CH}_2\text{PO}_2) + 4n\text{HCl}$$
and (2) reaction of the tetrachloride with tetraethyl ethylenediphosphonate taken in equimolar amounts:

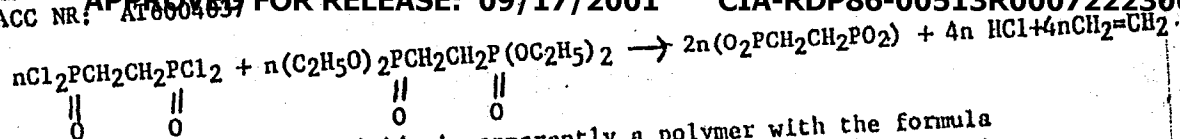
Card 1/2

L 16000-66

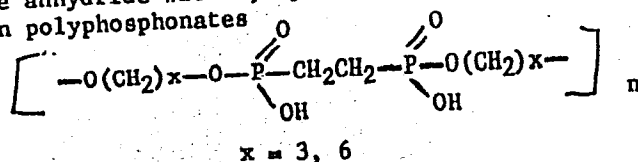
ACC NR: AT6004037

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000722230004



Ethylenediphosphonic anhydride is apparently a polymer with the formula and consists of a vitreous hygroscopic mass insoluble in all organic solvents. It reacts readily with alcohols, glycols, and phenols. Acid esters of ethylenediphosphonic acid were obtained in good yields from reactions of the anhydride with ethyl, isooctyl, and sec-octyl alcohol and p-nitrophenol at 80-120°C. Reaction of the anhydride with 1,3-propanediol and 1,6-hexanediol produced the heretofore unknown polyphosphonates



SUB CODE: 07 / SUBM DATE: 13Mar64 / ORIG REF: 003 / OTH REF: 002

Card 2/2

REEL #222

Khokhlov, Ye.I.

to
Khorkhoyan, L.V.

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